Science Of Dry Farming; How To Do It Successfully

Dry Farming Down At Cananea

Some Practical Results In The Southwest

The third crop made on the lands of Col. W. C. Greene, about nine miles east of Cananea, has been harvested and safely put away. The crops this year were mostly milo maize and sorghum, and the company has installed an engine and fodder cutter, and will feed cattle that are likely to die on the range on the dry grass during the cold weather. They will also have plenty of feed for their cow ponies and their dairy and creamery, which is operated near Cananea. The crops were much better this year than ever before, and this is caused no doubt by the complete routing of the old sod and the gradual pulverization of the soil by working the land year after year. Most of the land, in fact, all of it with the exception of twenty acres, was new last year. This ranch of Col. Greene's is unique in many years. It is the first dry farm, as far as is known, in Northern Mexico, and it has been a success from the first in that there has always been fair crops. The first year showed better than the second, owing to better rainfall the winter before planting. The second year the winter rainfall was very scant, and the land was broken up too late in the spring to make good results. This year there has been a success on everything.

Chinese Farmers.

This dry farm is unique for the reason that it s run altogether by two Chinamen, who were trained to this work by R. Branagh, who started this ranch under a lease from the Cananea Cattle Co. three years ago this month. As the Chinamen were the only help that would stay with the work he trained two of them and in a short time had them runing plows and cultivators with eight large mules. The Chinamen seemed to think that sitting on these rigs all day and skinning mules was a picnic. These two Chinamen are the whole thing, there being no foreman in charge of the ranch, which has about 400 acres in it.

Fred Parlin's Beans.

At Del Rio station, on the R. Y. and Pacific Railroad, ten miles from Cananea, is another very instructive little experiment in dry farming. Two years ago Jim Dodson, an old timer in the Cananeas, who used to haul coke into Cananea with wagons and mules from Naco in the days before the building of the Rio Yaqui and Pacific railroad from Naco to Cananea, and a man raised in Northern California in the old days of the bonanza grain farming, saw at once the point when the dry farm experiment station was started two miles south of him. He put in some corn two years ago—about four acres—but owing to the winter being extremely dry and no rain coming before the 13th of July, he made no corn, except good fodder. He had, however, a quarter acre of beans, and he had six sacks on this. This place was put in just as a time killer, for Jim Dodson had charge of the brick yard at Del Rio for the Cananea Consolidated Copper Co., and having mules and a plow at his disposal he thought he would try a little farming. This year Jim Dodson has been south in the mining country working for the company, and Fred Parlin was in charge of the brick yard. He was there the year Jim Dodson made his first experiment, and therefore knew something of the game. It is reportid that Fred made $800 off six acres of beans at Del Rio last fall.

Farming the Lake.

About half a mile from Del Rio station there is a lake or rather a flat, which had been banked up about three feet at the lower end, and filled with water in the rainy season, and made an excellent place for shooting duck, which were very plentiful there. In fact, in the days when Cananea was hitting the high places, and when copper was soaring around at the 25c mark, there was a club in Cananea which had control of this piece of water, and had a house and a watchman and boats and other things for the accommodation of the sportsmen. Now the lake has been converted into a dry farm or a wet farm, whichever it may be called, for by the simple process of cutting the bank and letting the summer floods run down a little arroyo as it had done in times past, there is a very nice little dry farm of about two hundred acres, worth in dollars many ducks.

Fertilizing Dry Land Soil

The problem of fertilizing dry land is not the same as fertilizing moist land or land in the humid regions where the soil contains a fair supply of moisture at all seasons of the year. The writer is informed by T. C. Wallace, of California, that in the dry soils of California the roots of the grape vines are very deep in the soil, and that, where irrigation is or is not practiced, it is found to be very difficult to properly fertilize the vineyards and orchards. It is a problem on which many are working, but it is doubtful if any have fully solved it—how to get the fertilizer that is put into the surface soil to decompose and yield up its plant food for the roots in the moist layer of soil far below.

It might be suggested that the irrigation water would do the work, but the irrigation water is not at the top of the soil for a long enough period to accomplish very much in this regard. It is not a question of dissolving what is soluble but seems to be a question of establishing a moist medium in the vicinity of the fertilizer in which moist medium the soil organism can work. The problem of fertilizing grape vines and fruit orchards is the greatest because these do not permit of the turning over of the soil for the purpose of working fertility into it.

The problem that exists in California all the time exists here in the Mississippi valley part of the time. We have dry seasons in which the effects of the fertilizers applied to our vineyards and orchards is not greatly felt. The moisture conditions of the soil have a very large influence on the decay of manure. For this reason many of the purchasers of fertilizers complain of not getting results from the fertilizers, without ever taking into account the fact that availability of the plant food in the fertilizers depends on the perfection of the water supply.

Land habitually dry is exceedingly difficult to fertilize, for the reason that the fertility remains in the soil without being submitted to the agencies that would change it into materials that the roots of trees and vines can use.

In the fertilizing of orchards and vineyards the fertilizer should be got into the soil and should be applied at times of the year when the moisture supply is likely to be good but is not over abundant.

If barnyard manure is to be placed in the surface soil of an orchard, it should be got in in the fall, before the coming of the fall rains if possible. If it is to be applied to the surface, it should be put on in the winter, that the rains and snows may wash the soluble portions into the soil.

If the fertilizer is a highly nitrogenous one, like the dried blood, it should be worked into the soil in the spring as early as possible. If it is applied in the fall, a large part of the soluble plant food will disappear before spring. The part of this that will be most lost will be the nitrogen, the very ingredient for which the blood is applied. Yet if it is applied too late in the spring to get the benefit of the spring moisture, the nitrogen is likely to be largely dissipated into the air.

Thus, in dry land fertilizing, the moisture supply must be closely considered, and because it is not closely considered is the reason that some of our fruit growers do not get the results from their orchards they have expected.

THE VALUE OF TREES.

The city forester of Chicago gives the following reasons why trees should be planted and properly cared for:

Trees are beautiful in form and color, inspiring a constant appreciation of nature.

Trees have an educational influence upon citizens of all ages, especially children.

Trees encourage outdoor life.

Trees purify the air.

Trees cool the air in summer and radiate warmth in winter.

Trees improve climate and conserve soil and moisture.

Trees furnish resting places and shelter for birds.

Trees enhance the value of real estate.

Trees protect the pavement from the heat of the sun.

Trees counteract adverse conditions of city life.

Trees create sentiment, love of country, state, city and home.

Trees enhance the beauty of architecture.

Practically the only objection raised to trees is the temptation they present to the average tree butcher.

VALUE OF HUMUS IN SOIL.

The value of humus in the soil is not only that it supplies an element of plant food, but that it absorbs moisture and is an obstacle to evaporation, says the Rural Californian. It also prevents soil erosion and waste. The most successful farmer is one who takes the most pains to utilize every element of his farm products that contributes humus to the soil. This is especially important in localities where the surface is uneven or broken, and the earth is not firm, or in other words is easily eroded by rainfall.

BROOM CORN EASY TO RAISE AND BRINGS SPLENDID PRICES TO FARMER

Tucumcari, N. M., Jan. 29.—E. H. Fulwood, who owns a small broom factory in the San Jose valley, where he has a fine farm, was here this week and a Herald representative had occasion to question him in regard to the raising of broom corn in eastern New Mexico. Mr. Fulwood is one of the most widely known farmers in this section of the territory and has made broom corn a specialty for the past few years.

"Broom corn," said Mr. Fulwood, "is a 90 day crop; that is, the crop can be harvested 90 days from planting; providing average summer weather prevails. It will grow on most of the soils on which cotton will do well, but will do better in the higher altitudes, where cotton is unknown. It is both a drouth resister and a plant that will flourish luxuriantly under conditions of excessive wet weather.

The Planting.

"Preparations for planting," continued Mr. Fulwood, "should begin simultaneously with that of all other crops—in the fall. Plow the land deep, and let it resume firmness and reestablish capillary movement before spring. In the spring, usually about the first of May, drop the seed with a planter in drills which have been run in the flat lands, two and a half or three feet apart. The quality of the land should govern the thickness of the stand in the drill. The poorer the land the thinner the stand should be. Great care should also be taken in the selection of the seed, as there is always seed of low vitality on the market. Two quarts will plant an acre, one bushel will plant 10 acres.

Needs Little Cultivation.

"Broom corn needs but very little cultivation. A tooth harrow drawn crosswise to the rows after the corn is up, will thin overthick corn to a stand. A side harrow should be used among the first cultivation; after this, give shallow plowings in proportion to the needs of the corn, bedding slightly in plowing. It is advised to never use a hoe in the crop if possible, as the least injury to the base of a stalk will precipitate a deformed head.

"Harvesting in eastern New Mexico," said Mr. Fulwood, "should usually begin about the first or middle of August. There being two kinds of corn, two different methods are used in gathering the tops. The specials, known as the Standard, grows 10 or 12 feet high, and the method of gathering the tops of these is called tabling. A man walks backward between the rows and breaks the corn down across the rows in front of him, the stalks meeting from the parallel rows and forming a table.

Cutting the Tops.

"A knife is then used to cut the tops from the boot or leaf, care being taken to so cut the top that five inches of stem will be left. The heads are piled on alternative tables, so that a team can be driven down the unused rows to haul away the product. This is carefully laid in wagons, so that no time will be lost in the necessity of arrangement in further handling. The second variety, the Dwarf, is handled differently. This grows to about the height of a man's head, and when the corn is ripe for gathering the heads are jerked sideways from the boot, one hand being placed against the boot to steady the stalk. The crop is gathered when the seeds are in the milk, or probably the dough, when the top being crisp, comes out with a jerk.

Curing the Tops.

"From onehalf to a day's curing in the sun should be given, and no longer, because any longer would bleach the straw and cause it to lose its green, fresh appearance, and consequently a loss in price. Not a drop of dew or rain should be allowed to reach the straw after it is pulled; mold and rufnation. The heads are then hauled to the thresher and threshed of their seeds. After threshing, the corn is laid away, preferably in a good dry room or barn, stacked on shelves two or three inches deep, and plenty of space intervening between the shelves for the very necessary circulation of air, which continues the curing process. After 10 days or two weeks the straw is bulked, where the curing process is completed by going through a kind of heating, following which the straw is baled and sold."

STARTING PLANTS FOR THE VEGETABLE GARDEN

Bulletin Issued from Mesilla Park College

Agricultural College, N. M., Jan. 29—J. E. Mundell, who is at the head of the agricultural department of this institution, has just compiled the following bulletin which should prove of benefit to early gardeners.

It is nearing the season of the year when the early gardener will want to start a few plants for early vegetables. The hotbed offers one of the easiest means to do this. To prepare the hotbed make a frame or box the size desired for it. The size varies but the usual size is from 4½ to 6 feet wide and as long as desired. It is not a good idea to make the bed too wide because it prevents the grower from easily reaching the center when he is weeding it. The frame can be made out of common one by six inch lumber, but heavier material may be used if desired. After sawing off the pieces for the four sides nail them together at corners. Place this box over the place marked for the hotbed. At each corner and in the center of each piece, on the outside of the frame, sink or drive into the ground a two by four stake 30 inches long; nail the box to these stakes. The box so secured to these stakes will not spread or slip up or down.

Preparing the Soil.

When the frame has been prepared as above, dig out the soil inside of it to a depth of 24 inches. When digging out this pit it is a good plan to make it a little bigger at the bottom than at the top so that the heating material when placed in the pit will be under the whole surface of the area inside the frame.

Into this pit place the heating material from 16 to 20 inches deep. Care should be taken to tramp the manure down firmly and evenly so as to make the mass compact and smooth on top. On top of this place five or six inches of rich well crumpled loamy soil. After the temperature of the soil has become somewhat uniform the seed may be planted. After the planting of the seed care should be taken to see that the soil does not become dry, because if it does the young plants will likely be killed. The heating of the manure below causes the water to evaporate rapidly from the soil. This being the case it is important to apply more water than is ordinarily required in an outside bed. Probably more failures are caused in growing plants in the hotbed by injudicious and improper watering than from any other cause.

To Heat the Bed.

In regard to the kind of material to use for heating, fresh horse manure is probably the best. In preparing the manure for the hotbed, secure the amount needed for it and place the same in a pile. When piling it up put on enough water to thoroughly moisten the whole mass. If fermentation does not commence soon it can be hastened by throwing upon the pile a few buckets of hot water. When the manure has begun to heat well turn over the whole mass into a new pile. This will make the heating of the whole uniform. If necessary add more water. The fermenting manure should not be allowed to become dry nor should it be made too wet. After the heating has become somewhat uniform the manure can be put into the hotbed pit as described above. If the manure used is very fine and does not contain much straw or other litter, it is better to add some straw or other coarse material. This helps to make the heating more uniform and prevents too rapid fermentation of the manure, thus causing the heat to last longer.

The Covering.

The kind of covering to use for the hotbed depends upon the material at hand. The regular cold frame sash may be used. The size most common in use is the three by six foot sash. The cold frame in connection with the manure furnishes abundant heat for the coldest sections of the territory. Where the cold frame sash is not available, covering the bed with common muslin or white domestic gives very satisfactory results.

It lets in sufficient light and holds the heat to some extent from passing off too rapidly. The muslin may be stretched over the whole hotbed in one piece or frames may be made the width of the cloth and the size of the frame, to which the cloth may be tacked. These frames can be made out of light lumber. Strips two inches wide by one inch thick will be sufficiently heavy. The frames may be mortised at the corners and nailed together or small strap angle irons like those used on the body of carriages can be screwed upon the corners which will hold the frames firmly. On very warm days the frame may be raised to let out some of the excessive heat and to let more light in. On extreme cold nights an extra covering may be thrown over the hotbed to prevent injury to the plants growing therein.

To Start Plants.

For starting plants for early vegetables such as celery, cauliflower, cabbage, onions, lettuce, tomatoes, and others, the hotbed offers an easy means. Vegetables like radishes, lettuce, and onions may be grown for midwinter use in the hotbed. Twenty inches of manure in the hotbed ought to furnish enough heat to last six or eight weeks.

INTERESTING BOYS ON THE FARM.

How to keep the boys on the farms is a problem that has been interesting people for a great many years. Fred W. Avery, of Natchez, Miss., says that in his state they have formed corn-growing clubs, and by offering prizes to juveniles, "have worked them up to a state of tremendous enthusiasm. One lad under 18 years not long ago took first prize and astonished the whole country by his extraordinary harvest of 138 bushels of corn from a single acre, the yield being all the more remarkable as it was in a section not specially adapted to corn. Another youth in the same club was the proud producer of 101 bushels on an acre. Over 200 boys were in that particular club, and the results attained by them far surpassed those of the older men who had similar organization."

BENEFITS OF SCIENTIFIC AGRICULTURE.

Chicago Examiner.

When Horace Greeley advised young Americans of his day to "Go west" and grow up with the country he had both imagination and business sense.

If Greeley were alive today he would probably qualify his advice to home-seekers by saying, "Go east," or "Go south," as well as "Go west," if they are seeking new opportunities and independence.

For a new spirit has come over the expert agriculturist's dream. There are fortunes waiting on the abandoned farms of New England and the mid-Atlantic states. Also in the middle-western states, where the sons of original soil tillers have disappeared in the western rush. Also in the glorious south, where nature smiles and millions of acres of virgin soil still luxuriate.

And the great west still beckons. Its index finger of opportunity points to millions of acres of new lands claimed from semi-aridity. It holds in its generous bosom whole empires, once thought hopeless, that are now beginning to blossom as the rose.

In scientific agriculture, place is secondary—skill everything. We harness rainfalls. We ignore climatic idiosyncrasies. Given God's free air and the virgin soil, the scientific farmer holds the key of independence and even wealth.

And the modern farmer leaving the city behind him no longer leaves the city's comforts behind him also. He takes them with him. Modern farm life has more comforts, and even more luxuries, than average city life a few decades ago.

IRRIGATION AND SAVING MOISTURE.

The ideal combination of conditions leading to success in farming in the arid and semi-arid west is found where it is possible to have a relatively small tract of well irrigated land adjacent to a large area of dry farming and grazing land. This permits of the widest diversity of occupation and the rounding out of an establishment practically complete in itself. The irrigated land is capable of producing each year one or more good crops which can be counted on with almost mathematical precision. Where the climate is favorable, fruit trees, berries, bushes and garden vegetables flourish, and shade trees or flowers are possible for the beautifying of the home.

On the adjacent dry farming land, with ordinary skill and in average years, the grains or other standard field crops can be produced. If in exceptionally dry seasons or by reason of hot winds these crops are not successful, the irrigated land tides over temporary depressions until there comes a favorable year when the crops will repay the labor lost during the lean years. The dry farming land also serves a useful purpose from time to time for a home range for the cattle and if the farm extends up into the foothills to the summer grazing lands the cycle of opportunity is complete.

From the irrigated area there can always be had green fodder for the cattle and hay can be cut for feeding during severe winters. This ideal arrangements has been possible of realization in a few instances on reclamation projects where the farms could be arranged in such a manner that 40 acres or more lie under a canal with the remainder extending above the ditch. Attempts have been made also to secure legislation by which the owner of 40 or 80 acres within the irrigated tract could obtain title to a large area of dry land near the project. The suggestion has also been considered of endeavoring to segregate the dry lands which surround the reclamation project, making these available for the use of the entire community as a general grazing ground or home range to be cared for by the water users' association.

WARNS OF DANGER OF TOO LARGE FARMS.

By Anders L. Nordt, Member Executive Committee National Dry Farming Congress.

The work of the general land agent who sells great tracts of land is not to be encouraged, for what is desired is the man who can take up a small tract and operate it successfully. The great trouble and danger in farming life is for a man to try to carry more than his capital warrants. It must be remembered that no business can thrive without capital of some capacity—capacity sufficient to carry on its work, and the poor man is prone to tackle more than he can handle. The man that says "get a big tract and work it on a few hundred dollars" is misleading. Make sure of what you can do and then do it. Take a small tract and cultivate it and thrive, and if capital is demanded for its success you will have it and the result will be to encourage others to follow your lead and our farms will soon be occupied and the country benefited.

FARM CONDITIONS ARE IMPROVING.

By Frederick A. Delano, President Wabash Railroad.

Congestion in large cities means high rents; high rents mean high wages; deficient productivity of the farms means high cost of farm productions, high cost of living for the city man, and that again means higher wages and higher cost of railway operation. The railroads have favored, and I think should continue to help in any proper way they can, anything which will tend to improve and ameliorate the condition of the farmer. I do not mean to say for a minute that the farmer needs any sympathy or commiseration. In the states of the Mississippi valley farm lands have, generally speaking, doubled in value in the last ten years. Furthermore, during that time conditions of life on the farms have materially improved.